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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,276	07/29/2003	Sung-Il Kang	45432	4714

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WASHINGTON,, DC 20036

EXAMINER

WILLIAMS, MARK A

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/628,276

Applicant(s)

KANG ET AL.

Examiner

Mark A. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because the teeth on the driving cam do not appear to “extend” in a radial direction, as claimed, but in a longitudinal direction.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9, 13-15, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There appears to be inconsistency between what is disclosed in applicant's drawings and what is claimed, with respect to "a plurality of radially extending teeth" on the diving cam. The drawings appear to show these teeth as being "positioned" radially along an engaging surface of the cam and extending longitudinally.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 10, 11, 17, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Korean Patent 2002-035553. A hinge device that can be used for an information terminal or like device is disclosed. A main body and a sub-body to be opened away from or closed to the main body in the claimed manner is considered an inherent part of a foldable electronic device. The hinge device comprising a driving part (within 110) generating a driving force for rotating the sub-body; and a clutch part 130 for rotating the sub-body by the driving force of the driving part, whereby, when the sub-body rotates by an external force, the clutch part preventing rotating force of the sub-body from being transmitted to the driving part. The driving part comprises a driving motor 10 and a reduction module (engaging with gear 74) including a plurality of gear arrays for reducing revolutions per minute of the driving motor (in the conventional manner as well known in the art) and increasing the driving force of the driving motor, thereby

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transmitting the reduced revolutions per minute and increased driving force.

The hinge is a one step hinge device as claimed.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-9 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korean Patent 2002-035553 ('553) in view of Lin, US Patent 5,799,371. Patent '553 discloses most of the claimed limitations including a longitudinally reciprocating driving cam 90 on a rotating shaft 56, a driven cam 100 installed to receive elastic force so as from a coil spring 132 so that the driven cam tightly engages with the driving cam, wherein, if the driven cam rotates by external force, the cams are disengaged, thereby preventing a driving force of the driven cam from being transmitted to the driving cam. A reduction module located within housing 74 comprises a plurality of gear arrays 60, which reduce the revolutions per minute of the driving motor 10, and at the same time, increase a driving force of the

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driving motor, thereby transmitting the reduced revolutions per minute and increased driving force. The housing is formed as claimed, and the gear arrangements includes driving plates with pins as conventional in the art. The housing 110 is divided into two section separated by a partition near 54, as claimed.

Patent '553 discloses the claimed invention except for teaching the cam members having a plurality of engaging teeth, as claimed. Lin teaches this concept (2, 3) for the purpose of retaining a hinged member in a series of angular positions. It would have been obvious at the time the invention was made for one skilled in the art to have modified '553 in this way, as discloses in Lin, for the purpose of gaining the added benefit of manually retaining the hinge member in a series of angular positions, relative to the driving cam.

6. Claims 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korean Patent 2002-035553 ('553) in view of Lin.

Regarding claim 18, '553 shows a shaft with a flat surface, but does not explicitly show a "D" shaped cross-section. It would have been an obvious matter of design choice to make the different portions of the shaft of whatever form or shape was desired or expedient. A change in form or shape

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is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. *In re Dailey et al.*, 149 USPQ 47. Such a modification is not critical to the design and would have produced no unexpected results.

Regarding claim 21, it would have been obvious to have modified the device in this way, since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Such a modification is not critical to the design and would have produced no unexpected results.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Williams whose telephone number is (703) 305-3438. The examiner can normally be reached on Monday through Friday.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Williams  
6/11/04

A handwritten signature in black ink, appearing to read 'G. Estremsky', written over a horizontal line.

GARY ESTREMSKY  
PRIMARY EXAMINER